TDMS No. 97003 - 08
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: MICE/B6C3F1

#### P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

F\_1.Rev.1\_M3

C Number: C97003D

**Lock Date:** 01/31/2005

Cage Range: ALL

Date Range: ALL

**Reasons For Removal:** ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

**TDMSE Version:** 1.8.0

Test Type: CHRONIC Route: SKIN APPLICATION Species/Strain: MICE/B6C3F1

**TDMS No.** 97003 - 08

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE MALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Disposition Summary					
Animals Initially in Study Early Deaths	50	50	50	50	
Accidently Killed		1			
Moribund Sacrifice Natural Death	8 7	12 7	8 3	7 3	
Survivors	,	•	Ŭ	v	
Moribund Sacrifice Terminal Sacrifice	1 34	30	39	40	
Animals Examined Microscopically	50	50 50	59 50	50	
LIMENTARY SYSTEM					
Esophagus	(50)	(50)	(50)	(50)	
Gallbladder	(49)	(49)	(48)	(49)	
Inflammation	3 (6%)		3 (6%)	2 (4%)	
Intestine Large, Cecum	(50)	(50)	(50)	(50)	
Hyperplasia, Lymphoid				1 (2%)	
Intestine Large, Colon	(50)	(50)	(50)	(50)	
Intestine Large, Rectum	(50)	(50)	(50)	(50)	
Intestine Small, Duodenum	(50)	(50)	(50)	(50)	
Ectopic Tissue			1 (2%)		
Intestine Small, Ileum	(50)	(49)	(50)	(50)	
Inflammation	1 (2%)				
Ulcer	1 (2%)				
Peyer's Patch, Hyperplasia, Lymphoid	1 (2%)				
Intestine Small, Jejunum	(50)	(50)	(50)	(50)	
Peyer's Patch, Hyperplasia, Lymphoid		1 (2%)	4 (8%)	2 (4%)	
Liver	(50)	(50)	(50)	(50)	
Basophilic Focus	1 (2%)	4 (8%)	5 (10%)	4 (8%)	
Clear Cell Focus	34 (68%)	22 (44%)	29 (58%)	24 (48%)	
Eosinophilic Focus	21 (42%)	9 (18%)	16 (32%)	16 (32%)	
Fatty Change, Focal	11 (22%)	. =	4 (8%)	6 (12%)	
Fatty Change, Diffuse	19 (38%)	15 (30%)	11 (22%)	14 (28%)	
Hematopoietic Cell Proliferation	3 (6%)	9 (18%)	2 (4%)	1 (2%)	
Infarct	1 (2%)				
Infiltration Cellular, Mononuclear Cell	1 (2%)	40 (000)	07 (5 (0))	00 (500)	
Inflammation	31 (62%)	19 (38%)	27 (54%)	28 (56%)	
Mineralization	1 (2%)	0 (400()	40 (000()	40 (040()	
Mixed Cell Focus	14 (28%)	9 (18%)	13 (26%)	12 (24%)	
Necrosis	3 (6%)	9 (18%)	5 (10%)	7 (14%)	
Pigmentation	4 (8%)	3 (6%)			

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC Route: SKIN APPLICATION Species/Strain: MICE/B6C3F1

**TDMS No.** 97003 - 08

1,2-Dibromo-2,4-dicyanobutane **CAS Number:** 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE MALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Tension Lipidosis	3 (6%)	5 (10%)	3 (6%)	3 (6%)	
Bile Duct, Cyst	1 (2%)	3 (10%)	3 (070)	3 (078)	
Hepatocyte, Hypertrophy	1 (270)	1 (2%)			
Mesentery	(10)	(3)	(4)	(2)	
Fat, Necrosis	9 (90%)	3 (100%)	3 (75%)	1 (50%)	
Pancreas	(50)	(50)	(50)	(50)	
Hyperplasia	1 (2%)	,	,	,	
Infiltration Cellular, Mononuclear Cell	7 (14%)		3 (6%)	6 (12%)	
Inflammation	2 (4%)				
Vacuolization Cytoplasmic				1 (2%)	
Acinus, Atrophy		2 (4%)		1 (2%)	
Duct, Cyst				1 (2%)	
Salivary Glands	(50)	(50)	(50)	(50)	
Atrophy		1 (2%)		1 (2%)	
Infiltration Cellular, Mononuclear Cell	35 (70%)	28 (56%)	39 (78%)	40 (80%)	
Necrosis		1 (2%)			
Stomach, Forestomach	(50)	(50)	(50)	(50)	
Hyperplasia, Squamous	1 (2%)	1 (2%)	1 (2%)	1 (2%)	
Inflammation	2 (4%)			0 (40()	
Ulcer	(50)	(50)	(50)	2 (4%)	
Stomach, Glandular	(50)	(50)	(50)	(50)	
Cyst		4 (00()	1 (2%)	4 (00()	
Erosion	1 (20/)	1 (2%)	1 (2%)	1 (2%)	
Inflammation Mineralization	1 (2%)	1 (2%)		1 (2%)	
Glands, Cyst	1 (2%)	1 (2%)		2 (4%)	
Glands, Gyst Glands, Hyperplasia	1 (2%)	1 (2%)	2 (4%)	2 (476)	
Tooth	(31)	(32)	(37)	(35)	
Dysplasia	(31)	(32)	2 (5%)	1 (3%)	
Malformation	29 (94%)	32 (100%)	36 (97%)	33 (94%)	
Peridontal Tissue, Inflammation	7 (23%)	2 (6%)	1 (3%)	9 (26%)	
Pulp, Inflammation	2 (6%)	2 (070)	1 (070)	3 (2370)	
ARDIOVASCULAR SYSTEM					
Blood Vessel	(50)	(50)	(50)	(50)	
Heart	(50)	(50)	(50)	(50)	
Cardiomyopathy	9 (18%)	6 (12%)	5 (10%)	3 (6%)	
Infiltration Cellular, Mononuclear Cell	1 (2%)				
Inflammation		1 (2%)			
Mineralization		1 (2%)	4 (00()		
Capillary, Hyperplasia			1 (2%)		

#### **ENDOCRINE SYSTEM**

Test Type: CHRONIC 1,2-Dibromo-2,4-dicyanobutane Route: SKIN APPLICATION CAS Number: 35691-65-7 Species/Strain: MICE/B6C3F1

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE MALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Adrenal Cortex	(50)	(50)	(50)	(50)	
Cytoplasmic Alteration		1 (2%)			
Degeneration	1 (2%)	(0.4004)	()	24 (4224)	
Hypertrophy	22 (44%)	16 (32%)	23 (46%)	21 (42%)	
Pigmentation	2 (4%)				
Vacuolization Cytoplasmic	1 (2%)	1 (2%)	1 (2%)		
Subcapsular, Hyperplasia	45 (90%)	46 (92%)	46 (92%)	44 (88%)	
Zona Fasciculata, Hyperplasia	6 (12%)	4>	1 (2%)	5 (10%)	
Adrenal Medulla	(50)	(49)	(50)	(50)	
Hyperplasia	4	2 (4%)	<b>()</b>	<b>4</b> >	
Islets, Pancreatic	(50)	(50)	(50)	(50)	
Hyperplasia	26 (52%)	23 (46%)	28 (56%)	25 (50%)	
Parathyroid Gland	(42)	(40)	(43)	(41)	
Cyst			1 (2%)		
Pituitary Gland	(50)	(50)	(49)	(50)	
Cyst	3 (6%)	3 (6%)	4 (8%)	6 (12%)	
Hyperplasia	1 (2%)	1 (2%)	1 (2%)		
Thyroid Gland	(50)	(50)	(50)	(50)	
Cyst	1 (2%)				
Infiltration Cellular, Mononuclear Cell			1 (2%)		
C-cell, Hyperplasia				1 (2%)	
Follicle, Cyst	1 (2%)		2 (4%)		
Follicular Cell, Hyperplasia		3 (6%)	2 (4%)	1 (2%)	

#### **GENERAL BODY SYSTEM**

None

## GENITAL SYSTEM

**TDMS No.** 97003 - 08

Coagulating Gland Hyperplasia Inflammation	(0)	(1)	(2) 1 (50%) 1 (50%)	(1)
Epididymis	(50)	(50)	(50)	(50)
Granuloma Sperm			2 (4%)	2 (4%)
Inflammation	37 (74%)	35 (70%)	35 (70%)	34 (68%)
Penis	(0)	(2)	(0)	(0)
Congestion	( )	1 (SÓ%)	( )	( )
Preputial Gland	(50)	(50)	(50)	(50)
Infiltration Cellular, Mononuclear Cell	()	()	()	1 (2%)
Inflammation	38 (76%)	30 (60%)	26 (52%)	28 (56%)
Duct, Ectasia	2 (4%)	2 (4%)	1 (2%)	4 (8%)
Prostate	(50)	(50)	(50)	(50)
Atrophy	(==)	()	()	1 (2%)

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC1,2-Dibromo-2,4-dicyanobutaneRoute: SKIN APPLICATIONCAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE MALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Infiltration Cellular, Mononuclear Cell	20 (40%)	17 (34%)	18 (36%)	14 (28%)	
Inflammation, Suppurative Seminal Vesicle	(50)	(50)	1 (2%) (50)	(50)	
Atrophy	(30)	(30)	(30)	1 (2%)	
Testes	(50)	(50)	(50)	(50)	
Mineralization	1 (2%)		3 (6%)	1 (2%)	
Germinal Epithelium, Atrophy	4 (8%)		3 (6%)	5 (10%)	
EMATOPOIETIC SYSTEM					
Bone Marrow	(50)	(50)	(50)	(50)	
Angiectasis	1 (2%)	0 (404)	0 (40()	4 (00()	
Myelofibrosis	2 (00/)	2 (4%)	2 (4%)	1 (2%)	
Myeloid Cell, Hyperplasia Lymph Node	3 (6%)	4 (8%)	3 (6%)	3 (6%)	
Renal, Hyperplasia, Lymphoid	(0)	(1)	(3) 1 (33%)	(1)	
Lymph Node, Mandibular	(50)	(50)	(50)	(50)	
Atrophy	1 (2%)	(30)	(30)	1 (2%)	
Hemorrhage	1 (270)	1 (2%)		1 (270)	
Hyperplasia, Lymphoid	2 (4%)	1 (2%)		1 (2%)	
Hyperplasia, Plasma Cell	2 (170)	4 (8%)	1 (2%)	. (270)	
Pigmentation	1 (2%)	1 (2%)	(=73)		
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)	
Atrophy	1 (2%)	1 (2%)	1 (2%)	1 (2%)	
Hemorrhage	1 (2%)	` ,	1 (2%)	1 (2%)	
Hyperplasia, Histiocytic			1 (2%)		
Hyperplasia, Lymphoid	1 (2%)	2 (4%)	1 (2%)	1 (2%)	
Hyperplasia, Plasma Cell		2 (4%)			
Inflammation, Suppurative	1 (2%)				
Inflammation, Granulomatous	1 (2%)	(40)	(50)	(50)	
Spleen	(50)	(49)	(50)	(50)	
Hematopoietic Cell Proliferation	19 (38%)	13 (27%)	20 (40%)	13 (26%)	
Hyperplasia, Histiocytic Hyperplasia, Lymphoid	8 (16%)	12 (24%)	12 (24%)	1 (2%) 11 (22%)	
Infiltration Cellular, Polymorphonuclear	0 (10%)	12 (2470)	12 (24%)	11 (2270)	
Capsule, Degeneration	1 (2%)		1 (2/0)		
Lymphoid Follicle, Atrophy	2 (4%)	4 (8%)		1 (2%)	
Red Pulp, Atrophy	1 (2%)	4 (8%)	1 (2%)	2 (4%)	
Thymus	(47)	(48)	(46)	(46)	
Atrophy	22 (47%)	19 (40%)	27 (59%)	23 (50%)	
Cyst	· · · · /	2 (4%)	(/	1 (2%)	

**INTEGUMENTARY SYSTEM** 

**TDMS No.** 97003 - 08

Species/Strain: MICE/B6C3F1

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC Route: SKIN APPLICATION Species/Strain: MICE/B6C3F1

**TDMS No.** 97003 - 08

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE MALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Skin	(50)	(50)	(50)	(50)	
Hyperplasia			1 (2%)		
Inflammation	4 (00()		2 (4%)		
Inflammation, Chronic Active Ulcer	1 (2%) 1 (2%)		2 (4%)		
Site Of Application - Dermis, Inflammation,	4 (8%)	1 (2%)	2 (4%) 7 (14%)	10 (20%)	
Chronic Active	4 (878)	1 (270)	7 (1478)	10 (2078)	
Site Of Application - Epidermis, Hyperplasia	6 (12%)	12 (24%)	37 (74%)	50 (100%)	
Site Of Application - Epidermis, Ulcer	3 (1270)	.= (= . , 0)	1 (2%)	3 (6%)	
			(,	- ()	
MUSCULOSKELETAL SYSTEM					
Bone	(50)	(50)	(50)	(50)	
Osteosclerosis	1 (2%)	()	()	()	
Skeletal Muscle	(0)	(0)	(1)	(0)	
NERVOUS SYSTEM					
Brain	(50)	(50)	(50)	(50)	
Hemorrhage		1 (2%)			
Meninges, Infiltration Cellular, Mononuclear			1 (2%)	1 (2%)	
Cell Spinal Cord	(0)	(0)	(0)	(1)	
Atrophy	(0)	(0)	(0)	1 (100%)	
				. (100,0)	
RESPIRATORY SYSTEM					
Lung	(50)	(50)	(50)	(50)	
Hemorrhage	,	1 (2%)	,	1 (2%)	
Infiltration Cellular, Mononuclear Cell	1 (2%)			,	
Inflammation	6 (12%)	5 (10%)		1 (2%)	
Pigmentation	1 (2%)	1 (2%)			
Thrombosis	1 (2%)				
Alveolar Epithelium, Hyperplasia	6 (12%)	0 (400()	0 (40()	4 (8%)	
Alveolus, Infiltration Cellular, Histiocyte	5 (10%)	8 (16%)	2 (4%)	3 (6%)	
Bronchiole, Hyperplasia	(50)	(50)	1 (2%) (50)	1 (2%) (50)	
Nose Inflammation, Suppurative	(50)	3 (6%)	(30)	(50)	
Polyp, Inflammatory	1 (2%)	3 (0 %)	1 (2%)		
Glands, Dilatation	1 (2/0)		1 (2%)		
Nerve, Atrophy			1 (2%)		
Respiratory Epithelium, Hyperplasia			1 (2%)		
Respiratory Epithelium, Inflammation	7 (14%)		1 (2%)		
	` '		` '		

a - Number of animals examined microscopically at site and number of animals with lesion

# TDMS No. 97003 - 08 Test Type: CHRONIC Route: SKIN APPLICATION

Species/Strain: MICE/B6C3F1

P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE MALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Respiratory Epithelium, Metaplasia	(50)	1 (2%)	(50)	(50)	
Trachea Inflammation	(50)	(50)	(50)	(50) 1 (2%)	
Glands, Cyst	1 (2%)			. (= /0)	
SPECIAL SENSES SYSTEM					
Eye Atrophy	(50)	(50) 1 (2%)	(50)	(50)	
Cornea, Inflammation		1 (270)		2 (4%)	
Lens, Degeneration	1 (2%)	1 (2%)		, ,	
Retina, Atrophy Harderian Gland	2 (4%) (50)	1 (2%) (50)	(50)	(50)	
Fibrosis, Focal		1 (2%)			
Infiltration Cellular, Mononuclear Cell Inflammation	31 (62%) 1 (2%)	30 (60%)	26 (52%) 1 (2%)	30 (60%)	
Epithelium, Hyperplasia	2 (4%)	3 (6%)	1 (270)	4 (8%)	
JRINARY SYSTEM					
Kidney	(50)	(50)	(50)	(50)	
Cyst	3 (6%)	8 (16%)	2 (4%)	6 (12%)	
Hemorrhage Infarct	4 (8%)	1 (2%)	4 (8%)	1 (2%) 3 (6%)	
Infiltration Cellular, Mononuclear Cell	1 (2%)	1 (2%)	4 (070)	3 (070)	
Inflammation	2 (4%)				
Mineralization	44 (88%)	45 (90%)	46 (92%)	43 (86%)	
Nephropathy Papilla, Renal Tubule, Necrosis	48 (96%)	41 (82%) 1 (2%)	48 (96%)	48 (96%)	
Renal Tubule, Hyperplasia	12 (24%)	12 (24%)	12 (24%)	7 (14%)	
Urinary Bladder	(50)	(50)	(50)	(50)	
Infiltration Cellular, Mononuclear Cell Transitional Epithelium, Hyperplasia	22 (44%)	19 (38%)	23 (46%) 2 (4%)	27 (54%)	

\*\*\* END OF MALE \*\*\*

a - Number of animals examined microscopically at site and number of animals with lesion

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE FEMALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Disposition Summary					
Animals Initially in Study	50	50	50	50	
Early Deaths	30	30	50	30	
Moribund Sacrifice	10	11	14	11	
Natural Death	7	3	6	4	
Survivors					
Natural Death		1			
Terminal Sacrifice	33	35	30	35	
Animals Examined Microscopically	50	50	50	50	
LIMENTARY SYSTEM					
Esophagus	(50)	(50)	(50)	(50)	
Gallbladder	(50)	(49)	(50)	(50)	
Cyst		1 (2%)			
Inflammation		3 (6%)	5 (10%)	2 (4%)	
Intestine Small, Duodenum	(50)	(50)	(50)	(50)	
Intestine Small, Jejunum	(50)	(50)	(50)	(50)	
Hyperplasia, Lymphoid			1 (2%)		
Inflammation	3 (6%)	1 (2%)			
Necrosis, Fatty	1 (2%)	4	<b>()</b>	4	
Liver	(50)	(50)	(50)	(50)	
Angiectasis	4 (00()	1 (2%)	1 (2%)		
Basophilic Focus	1 (2%)	3 (6%)	0 (00()	0 (400()	
Clear Cell Focus	14 (28%)	13 (26%)	3 (6%)	8 (16%)	
Cyst Eosinophilic Focus	6 (400/)	1 (2%)	4 (8%)	4 (90/)	
	6 (12%)	3 (6%)		4 (8%)	
Fatty Change, Focal Fatty Change, Diffuse	1 (2%) 1 (2%)		1 (2%) 4 (8%)	4 (8%)	
Fibrosis	1 (270)	1 (2%)	4 (070)	4 (0%)	
Hematopoietic Cell Proliferation	6 (12%)	3 (6%)	3 (6%)	5 (10%)	
Infiltration Cellular, Lymphocyte	0 (1270)	3 (070)	1 (2%)	3 (1070)	
Inflammation	35 (70%)	42 (84%)	37 (74%)	41 (82%)	
Mixed Cell Focus	13 (26%)	10 (20%)	5 (10%)	7 (14%)	
Necrosis	3 (6%)	2 (4%)	8 (16%)	4 (8%)	
Pigmentation	4 (8%)	4 (8%)	1 (2%)	1 (2%)	
Tension Lipidosis	5 (10%)	2 (4%)	4 (8%)	6 (12%)	
Vacuolization Cytoplasmic	3 (1373)	= ( )	1 (2%)	5 (12/5)	
Hepatocyte, Hypertrophy	1 (2%)		. (=,=,		
Mesentery	(10)	(9)	(6)	(10)	
Fat, Necrosis	9 (90%)	9 (100%)	6 (100%)	9 (90%)	
Pancreas	(50)	(50)	(50)	(50)	

**TDMS No.** 97003 - 08

Test Type: CHRONIC

Route: SKIN APPLICATION
Species/Strain: MICE/B6C3F1

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: MICE/B6C3F1

**TDMS No.** 97003 - 08

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE FEMALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Cyst	1 (2%)	2 (4%)			
Infiltration Cellular, Mononuclear Cell	17 (34%)	15 (30%)	17 (34%)	24 (48%)	
Inflammation		3 (6%)			
Acinus, Atrophy	1 (2%)	3 (6%)	4>	(==)	
Salivary Glands	(50)	(50)	(50)	(50)	
Infiltration Cellular, Mononuclear Cell	31 (62%)	32 (64%)	33 (66%)	36 (72%)	
Stomach, Forestomach	(50)	(50)	(50)	(50)	
Cyst Hyperkeratosis	1 (2%) 1 (2%)			2 (4%)	
Hyperplasia, Squamous	2 (4%)			2 (4%)	
Inflammation	2 (478)			2 (4%)	
Ulcer				2 (4%)	
Stomach, Glandular	(50)	(50)	(50)	(50)	
Cyst	1 (2%)	(00)	(00)	(00)	
Erosion	(=75)	2 (4%)		1 (2%)	
Mineralization		( /	1 (2%)	1 (2%)	
Glands, Cyst	2 (4%)	5 (10%)	4 (8%)	5 (10%)	
Glands, Hyperplasia		1 (2%)			
Tooth	(3)	(4)	(4)	(1)	
Malformation	3 (100%)	3 (75%)	3 (75%)	1 (100%)	
Peridontal Tissue, Inflammation		1 (25%)	1 (25%)		
CARDIOVASCULAR SYSTEM					
Blood Vessel	(50)	(50)	(50)	(50)	
Hyperplasia		1 (2%)			
Heart	(50)	(50)	(50)	(50)	
Cardiomyopathy	10 (20%)	2 (4%)	9 (18%)	14 (28%)	
Infiltration Cellular, Mononuclear Cell	1 (2%)		1 (2%)	1 (2%)	
Inflammation Mineralization	1 (20/)			2 (4%)	
Thrombosis	1 (2%)			1 (2%)	
				1 (270)	
ENDOCRINE SYSTEM					
Adrenal Cortex	(50)	(50)	(50)	(50)	
Hematopoietic Cell Proliferation	2 (4%)	(55)	(00)	1 (2%)	
Hypertrophy	2 (4%)	2 (4%)		1 (2%)	
Inflammation	1 (2%)	(/		1 (2%)	
Vacuolization Cytoplasmic	, ,		1 (2%)	1 (2%)	
Capsule, Necrosis, Fatty	1 (2%)		` ,	, ,	
Subcapsular, Hyperplasia	50 (100%)	49 (98%)	50 (100%)	49 (98%)	
Zona Fasciculata, Hyperplasia	2 (4%)	2 (4%)	1 (2%)	1 (2%)	
Adrenal Medulla	(50)	(50)	(50)	(50)	

a - Number of animals examined microscopically at site and number of animals with lesion

1,2-Dibromo-2,4-dicyanobutane

CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE FEMALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Hyperplasia	1 (2%)	2 (4%)		3 (6%)	
Vacuolization Cytoplasmic				1 (2%)	
Islets, Pancreatic	(50)	(50)	(50)	(50)	
Hyperplasia	4 (8%)			1 (2%)	
Parathyroid Gland	(38)	(40)	(40)	(41)	
Cyst				1 (2%)	
Inflammation, Chronic Active				1 (2%)	
Pituitary Gland	(50)	(50)	(50)	(50)	
Angiectasis	1 (2%)	2 (4%)	1 (2%)	1 (2%)	
Cyst	1 (2%)	1 (2%)		2 (4%)	
Pars Distalis, Angiectasis		1 (2%)			
Pars Distalis, Hyperplasia	9 (18%)	13 (26%)	16 (32%)	12 (24%)	
Pars Intermedia, Hyperplasia		1 (2%)			
Thyroid Gland	(50)	(50)	(50)	(50)	
Infiltration Cellular, Mononuclear Cell	3 (6%)	2 (4%)	3 (6%)	3 (6%)	
Inflammation, Suppurative	1 (2%)				
C-cell, Hyperplasia		1 (2%)			
Follicle, Cyst	2 (4%)				
Follicular Cell, Hyperplasia	1 (2%)	3 (6%)	1 (2%)	1 (2%)	
Follicular Cell, Hypertrophy	1 (2%)	. ,	. ,	. ,	

#### **GENERAL BODY SYSTEM**

None

#### **GENITAL SYSTEM**

TDMS No. 97003 - 08 Test Type: CHRONIC

Route: SKIN APPLICATION

Species/Strain: MICE/B6C3F1

Clitoral Gland	(50)	(49)	(50)	(50)
Inflammation	18 (36%)	5 (10%)	2 (4%)	7 (14%)
Duct, Cyst	- ()	- ( ,	1 (2%)	(/
Ovary	(50)	(50)	(50)	(50)
Angiectasis	,	1 (2%)	3 (6%)	1 (2%)
Cyst	7 (14%)	10 (20%)	19 (38%)	13 (26%)
Hemorrhage	,	,	1 (2%)	,
Inflammation, Granulomatous		1 (2%)	, ,	
Mineralization		1 (2%)		
Pigmentation		1 (2%)		
Thrombosis	1 (2%)	1 (2%)	2 (4%)	
Periovarian Tissue, Necrosis	1 (2%)	, ,	, ,	
Uterus	(50)	(50)	(50)	(50)
Angiectasis	2 (4%)	1 (2%)		
Inflammation, Suppurative				1 (2%)
Thrombosis			1 (2%)	
Endometrium, Hyperplasia, Cystic	50 (100%)	49 (98%)	48 (96%)	48 (96%)

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC Route: SKIN APPLICATION Species/Strain: MICE/B6C3F1

**TDMS No.** 97003 - 08

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE FEMALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Vagina	(0)	(0)	(3)	(0)	
EMATOPOIETIC SYSTEM					
Bone Marrow	(50)	(50)	(50)	(50)	
Angiectasis	` ,	1 (2%)	1 (2%)	, ,	
Atrophy, Focal	3 (6%)		1 (2%)	2 (4%)	
Myelofibrosis	27 (54%)	29 (58%)	27 (54%)	27 (54%)	
Myeloid Cell, Hyperplasia	2 (4%)			4 (8%)	
Lymph Node	(8)	(6)	(6)	(4)	
Hyperplasia, Plasma Cell				1 (25%)	
Iliac, Ectasia			1 (17%)		
Inguinal, Ectasia		1 (17%)	, ,		
Lumbar, Congestion				1 (25%)	
Lumbar, Ectasia		2 (33%)	2 (33%)		
Lumbar, Hyperplasia, Histiocytic				1 (25%)	
Mediastinal, Congestion				1 (25%)	
Mediastinal, Hyperplasia, Histiocytic				1 (25%)	
Renal, Ectasia	2 (25%)		1 (17%)		
Lymph Node, Mandibular	(50)	(50)	(50)	(50)	
Atrophy			1 (2%)		
Ectasia		1 (2%)			
Hyperplasia, Lymphoid	1 (2%)	4 (8%)		5 (10%)	
Hyperplasia, Plasma Cell	1 (2%)				
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)	
Congestion, Chronic				1 (2%)	
Hyperplasia, Histiocytic				1 (2%)	
Hyperplasia, Lymphoid		3 (6%)	3 (6%)	2 (4%)	
Hyperplasia, Plasma Cell	1 (2%)	1 (2%)	1 (2%)	2 (4%)	
Inflammation		1 (2%)			
Spleen	(50)	(50)	(50)	(50)	
Fibrosis		1 (2%)			
Hematopoietic Cell Proliferation	16 (32%)	19 (38%)	18 (36%)	22 (44%)	
Hyperplasia, Lymphoid	13 (26%)	19 (38%)	19 (38%)	16 (32%)	
Pigmentation	7 (14%)	5 (Ì0%)	8 (16%) <sup>´</sup>	6 (Ì2%)	
Lymphoid Follicle, Atrophy	1 (2%)	•	4 (8%)	1 (2%)	
Red Pulp, Atrophy	1 (2%)		4 (8%)	3 (6%)	
Thymus	(47)	(47)	(48)	(50)	
Átrophy	11 (23%)	11 (23%)	13 (27%)	17 (34%)	
Hyperplasia, Atypical	, ,	1 (2%)	•	•	
Hyperplasia, Lymphoid		5 (Ì1%́)	7 (15%)	4 (8%)	

### INTEGUMENTARY SYSTEM

Test Type: CHRONIC Route: SKIN APPLICATION Species/Strain: MICE/B6C3F1

**TDMS No.** 97003 - 08

1,2-Dibromo-2,4-dicyanobutane **CAS Number:** 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE FEMALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Mammary Gland Hyperplasia Skin Site Of Application - Dermis, Inflammation,	(50) (50)	(49) (50) 9 (18%)	(50) 1 (2%) (50) 30 (60%)	(50) (50) 28 (56%)	
Chronic Active Site Of Application - Epidermis, Hyperplasia Site Of Application - Epidermis, Ulcer Subcutaneous Tissue, Inflammation, Granulomatous		12 (24%) 1 (2%)	37 (74%) 2 (4%)	49 (98%) 3 (6%) 1 (2%)	
Subcutaneous Tissue, Necrosis, Fatty Subcutaneous Tissue, Pigmentation				1 (2%) 1 (2%)	
MUSCULOSKELETAL SYSTEM					
Bone Arthrosis	(50)	(50) 1 (2%)	(50)	(50)	
Osteopetrosis Skeletal Muscle	(1)	(1)	(1)	1 (2%) (1)	
NERVOUS SYSTEM					
Brain Hemorrhage Pigmentation Neuron, Necrosis	(50)	(50)	(50) 1 (2%)	(50) 1 (2%) 1 (2%)	
RESPIRATORY SYSTEM				. (2.4)	
Lung Hemorrhage Inflammation Pigmentation	(50) 1 (2%)	(50) 2 (4%) 1 (2%)	(50)	(50) 2 (4%) 3 (6%) 1 (2%)	
Alveolar Epithelium, Hyperplasia Alveolus, Infiltration Cellular, Histiocyte Mediastinum, Inflammation Serosa, Fibrosis	1 (2%) 2 (4%)	1 (2%) 1 (2%) 1 (2%)	2 (4%) 1 (2%)	2 (4%) 1 (2%)	
Nose Glands, Cyst Respiratory Epithelium, Inflammation	(50) 2 (4%)	(50)	(50)	(50) 1 (2%)	
Trachea	(50)	(50)	(50)	(50)	

#### SPECIAL SENSES SYSTEM

a - Number of animals examined microscopically at site and number of animals with lesion

1,2-Dibromo-2,4-dicyanobutane

CAS Number: 35691-65-7

**Date Report Reqsted:** 08/21/2007 **Time Report Reqsted:** 13:25:49 **First Dose M/F:** 06/25/02 / 06/24/02

Lab: BAT

B6C3F1 MICE FEMALE	0 MG/KG	0.6 MG/KG	2 MG/KG	6 MG/KG	
Eye	(50)	(50)	(50)	(50)	
Cornea, Inflammation, Suppurative Lens, Degeneration	2 (4%)	1 (2%) 2 (4%)			
Optic Nerve, Degeneration	2 (470)	2 (470)	1 (2%)		
Harderian Gland	(50)	(50)	(50)	(50)	
Infiltration Cellular, Mononuclear Cell	31 (62%)	33 (66%)	36 (72%)	36 (72%)	
Epithelium, Hyperplasia	1 (2%)	1 (2%)	4 (8%)	3 (6%)	
URINARY SYSTEM					
Kidney	(50)	(50)	(50)	(50)	
Accumulation, Hyaline Droplet		1 (2%)			
Amyloid Deposition Cyst	2 (4%)		1 (2%)		
Degeneration Degeneration			1 (2%)	1 (2%)	
Infarct	3 (6%)	2 (4%)	8 (16%)	4 (8%)	
Inflammation	2 (4%)				
Metaplasia, Osseous Mineralization	4.4 (200/.)	1 (2%)	4 (00/)	1 (2%)	
Nephropathy	14 (28%) 16 (32%)	8 (16%) 15 (30%)	4 (8%) 16 (32%)	3 (6%) 18 (36%)	
Pigmentation	10 (3270)	13 (3070)	1 (2%)	10 (3070)	
Pelvis, Dilatation			1 (2%)		
Renal Tubule, Hyperplasia	1 (2%)	2 (4%)			
Renal Tubule, Necrosis	1 (2%)	(50)	(50)	(50)	
Urinary Bladder Infiltration Cellular, Mononuclear Cell	(50) 33 (66%)	(50) 37 (74%)	(50) 38 (76%)	(50) 38 (76%)	
inilitiation Celiulai, Mononuclear Celi	აა (ხნ%)	31 (14%)	30 (70%)	30 (10%)	

\*\*\* END OF REPORT \*\*\*

TDMS No. 97003 - 08
Test Type: CHRONIC

Route: SKIN APPLICATION
Species/Strain: MICE/B6C3F1

a - Number of animals examined microscopically at site and number of animals with lesion